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## A Challenge to the California Water Plan

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## A CHALLENGE TO THE CALIFORNIA WATER PLAN

The interbasin transfer of California's water resources began in 1933 with the construction of the Bureau of Reclamation's Central Valley Project, a proposal to capture and store the waters of the Sacramento and San Joaquin Rivers and to divert them north and south to irrigate millions of acres of California's central valley.<sup>1</sup> The California State Water Plan, implemented by the passage of the Burns-Porter Act<sup>2</sup> in 1959, contemplated the delivery of "surplus" water from northern California through an aqueduct along the west side of the San Joaquin Valley south to near Bakersfield, where it would then be pumped across the Tehachapi Mountains to water-scarce southern California.<sup>3</sup> The Central Valley Project and State Water Plan have since been expanded into an extensive complex of reservoirs, pumping plants and conveyancing facilities,<sup>4</sup> and the continued development of these facilities is now deemed a necessary condition to the projected economic development of southern and central California.<sup>5</sup>

Most water resource developments will result in both beneficial and detrimental consequences, and the usual project justification is based upon the rationale that the benefits will exceed the project costs plus the "costs of mitigating the project's identifiable" adverse ecological consequences.<sup>6</sup> This justification for project development assumes that the deleterious consequences of water diversion can be corrected without terminating project operations. Unfortunately, the assumption is not justified by an examination of the effects of present California water diversion projects. Existing projects have already created a number of water quality-quantity related problems<sup>7</sup> which will only be aggravated by future project construction. As a consequence, the present and future development of California water projects is proceeding in contravention of federal legislation designed to regulate the environmental im-

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The author wishes to acknowledge the assistance of Mr. Gary J. Near, a member of the California Bar, and the attorney representing the Sierra Club. Several of Mr. Near's ideas are included in this commentary.

1. H. ROGERS & A. NICHOLS, *WATER FOR CALIFORNIA* § 26, at 42-43 (1967) [hereinafter cited as *ROGERS & NICHOLS*].

2. Cal. Stat. 1959, ch. 1762, at 4234 (codified at CAL. WATER CODE §§ 12930-44 (1964)).

3. ROGERS & NICHOLS, *supra* note 1, § 113, at 152-53.

4. FEDERAL WATER POLLUTION CONTROL ADMINISTRATION, DEP'T OF INTERIOR, *CENTRAL VALLEY WATER RESOURCES STUDY* 20 (1967) [hereinafter cited as *VALLEY WATER STUDY*].

5. *Id.* at 57.

6. *Id.*

7. See text accompanying notes 49-81 *infra*.

pact of federal project construction.<sup>8</sup>

## I. Geographic and Historical Origins

### A. The Bay-Delta System

The geographic area involved in the California Water Plan is the Sacramento-San Joaquin Delta, a California estuary and component of the San Francisco Bay located at the confluence of the north-flowing San Joaquin River and the south-flowing Sacramento River.<sup>9</sup> The importance of the delta region is more fully realized when considered in terms of the entire California system of water resources. About 75 percent of the state's water supply is located north of San Francisco and the delta region,<sup>10</sup> while at least 75 percent of the demand for water lies south of this area.<sup>11</sup> Natural run-off from the central valley, much of it running through the delta and spilling into the bay, totals about 40 percent of California's total fresh water run-off.<sup>12</sup> The San Francisco Bay estuary, then, is a blend of fresh water flowing through the delta and salt water entering the estuary through the Golden Gateway. The quality of bay-delta waters and their effect upon the bay as a vital natural resource is critically dependent upon a minimum volume of fresh water run-off from the San Joaquin and Sacramento Rivers.<sup>13</sup>

### B. Development of the California Water Plan

Long before the California Water Plan became a reality, at least one California court recognized the need for extensive utilization of the water-rich Sacramento-San Joaquin system for water diversion. In 1922, the California Supreme Court decided that the City of Antioch had no right to enjoin the agricultural diversion of the Sacramento River, even though the river at Antioch was thereby rendered unusable because of saline intrusion due to the diminished volume of fresh water flowing through the delta.<sup>14</sup> The court rejected Antioch's plea for abatement of the pollution of its water supply<sup>15</sup> and in dicta provided the rationale

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8. See text accompanying notes 108-94 *infra*.

9. See Report of the Bay-Delta Water Quality Subcomm., Northern California Regional Conservation Comm., Sierra Club, April 1969, at 8 (mimeograph on file in Sierra Club Library) [hereinafter cited as Bay-Delta Report].

10. KAISER ENGINEERS, FINAL REPORT TO THE STATE OF CALIFORNIA SAN FRANCISCO BAY-DELTA WATER QUALITY PROGRAM viii-1 (June 1969).

11. *Id.*

12. *Hearings on the Nation's Estuaries: San Francisco Bay and Delta Before a Subcomm. of the House Comm. on Gov't Operations*, 91st Cong., 1st Sess., pt. 2, at 400 (1970).

13. See text accompanying notes 49-81 *infra*.

14. *Town of Antioch v. Williams Irrigational Dist.*, 188 Cal. 451, 205 P. 688 (1922).

15. *Id.* at 459, 205 P. at 691. Antioch's plea for abatement of the pollution was

for a future program of maximum water use:

[M]any appropriations of water for irrigation have already been made and in the tributaries of the Sacramento River there are possibilities of many more. . . . It is certain that such appropriations and uses of water will be made or attempted in the future.<sup>16</sup>

In 1933 the California Legislature, mindful of the state's growing water problems, enacted the Central Valley Project Act.<sup>17</sup> Initial legislation intended the Central Valley Project to serve six essential purposes in three orders of priority: 1) river regulation, improvement of navigation and flood control; 2) irrigation and domestic uses; and 3) power.<sup>18</sup> The legislation afforded no consideration to the conservation of the bay-delta system, the waters of which it planned to divert.<sup>19</sup>

The planned project involved the expenditure of an estimated 158 million dollars in state funds.<sup>20</sup> Economic conditions in 1934 and 1935, however, prompted the state to seek federal assistance by applying for the project's inclusion among those programs aided by the Federal Public Works Administration.<sup>21</sup> The first congressional authorization of funds was advanced in 1935, but it limited federal participation to the navigational development of the northern valley and the building of the Kennett Dam on the Sacramento River.<sup>22</sup> Later in 1935, in accordance with the Reclamation Act of 1902<sup>23</sup> and as required by supporting legislation,<sup>24</sup> the Secretary of the Interior determined that the plan was a feasible federal reclamation project.<sup>25</sup>

In 1947 the California Legislature had authorized a comprehensive statewide investigation into the availability of water resources and the feasibility of intrastate water transfers; this study resulted in the State Water Plan 10 years later.<sup>26</sup> The plan called for implementation primarily by the state, but the Federal Government would continue to participate through the Department of the Interior's Bureau of Reclamation and the Army Corps of Engineers, particularly in the continued

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based on a prior rule, that an appropriator of water from a stream for domestic uses has the right to enjoin the pollution of the stream above him so the water will flow downstream to him in a condition suitable for the use which the appropriator had previously made of the stream.

16. *Id.* at 464, 205 P. at 694.

17. Cal. Stat. 1933, ch. 1042, at 2643 (codified at CAL. WATER CODE §§ 11100-925 (1964)).

18. VALLEY WATER STUDY, *supra* note 4, at 44-45.

19. *See id.*

20. *See generally* S. HARDING, WATER IN CALIFORNIA 166-68 (1960), *cited in* ROGERS & NICHOLS, *supra* note 1, § 28, at 47.

21. *See* 38 CALIF. L. REV. 666 (1950).

22. Act of Aug. 30, 1935, ch. 831, 49 Stat. 1028.

23. 43 U.S.C. §§ 371-616 (1964).

24. *Id.* § 411.

25. ROGERS & NICHOLS, *supra* note 1, § 28, at 47-48.

26. *Id.* § 56, at 66.

development of the Central Valley Project.<sup>27</sup> Funding for the state's role in implementation was provided when the California Legislature passed, and the voters approved, the Burns-Porter Act,<sup>28</sup> authorizing the issuance of 1.75 billion dollars in state bonds. The construction, to be undertaken by the State Department of Water Resources and the Federal Bureau of Reclamation, was expected to be completed by 1971.<sup>29</sup>

Completion of the plan was postponed indefinitely by the 1963 Supreme Court decision of *Arizona v. California*.<sup>30</sup> In that case the Supreme Court determined that Congress, in passing the Boulder Canyon Project Act,<sup>31</sup> intended to and did create its own scheme for the apportionment of the Colorado River's mainstream waters among California, Arizona and Nevada.<sup>32</sup> While the doctrines of "*prior apportionment*" and "*equitable apportionment*" would have entitled populous southern California to large portions of the Colorado's waters, the Boulder Canyon Act required more equal distribution of the river's resources<sup>33</sup> and thereby reduced California's expected entitlements. This reduction necessitated a recalculation of the water required to be transported from the water-rich north to water-scarce southern California.<sup>34</sup>

The recalculation resulted in a series of newly-proposed water diversion projects,<sup>35</sup> including the controversial "Peripheral Canal."<sup>36</sup> The concept of a peripheral canal was the result of the expected aggravation of already deteriorating water quality due to the scheduled increase in water export from the Sacramento-San Joaquin Delta.<sup>37</sup> Present operations of the state's aqueduct pumps at Tracy and the federal pumps serving the Delta-Mendota Canal have resulted in a deterioration of water quality at the export pumps.<sup>38</sup> Agricultural wastes, which are swept into the San Joaquin River from riparian farms, have not been flushed through the delta because state and federal export pumps have

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27. *Id.*

28. Cal. Stat. 1959, ch. 1762, at 4234 (codified at CAL. WATER CODE §§ 12930-44 (1964)).

29. ROGERS & NICHOLS, *supra* note 1, § 113, at 153.

30. 373 U.S. 546 (1963).

31. 43 U.S.C. §§ 617-617(t) (1964).

32. 373 U.S. at 575.

33. *Id.*

34. *See id.*; ROGERS & NICHOLS, *supra* note 1, § 113, at 153.

35. ROGERS & NICHOLS, *supra* note 1, § 98, at 139-40. Additional project sites, to have been constructed after 1960, include the Trinity River Division, Black Butte, San Luis Unit, New Hogan, Sly Park, Peripheral Canal, Kellogg, Buchanan Reservoir, Hidden Reservoir, New Melones Reservoir, East Side Division, Auburn-Folsom South, West Sacramento Canal, Marysville Reservoir, Consumnes, English Ridge, Paskenta-Newville and Dos Rios. VALLEY WATER STUDY, *supra* note 4, at 55.

36. *See* Bay-Delta Report, *supra* note 9, at 17.

37. *See id.* 17-18.

38. *See id.*

interfered with the normal flow of the San Joaquin.<sup>39</sup> Agricultural and metropolitan centers in southern California, importing water from the north, have required the enforcement of stringent quality standards at the point of water export origin.<sup>40</sup> Conditions in the delta, therefore, have made it imperative that higher quality Sacramento River water be by-passed around the delta in order to preserve high water quality at export pumps.<sup>41</sup> This will be accomplished by the Peripheral Canal, a joint state-federal channel which will tap the Sacramento River near Hood, California, and send it south around the delta.<sup>42</sup> As a consequence, wastes will continue to accumulate in the delta because the Peripheral Canal will further diminish the flushing effect of the already depleted flow of the Sacramento River.

## II. Adverse Consequences of Interbasin Water Transfer

### A. The Hazard

Historically, fresh water flows to the delta have ranged between a maximum of 45 million acre feet per year in 1938 and a minimum of 7.6 million acre feet in 1924.<sup>43</sup> While delta inflows historically averaged between 20 and 30 million acre feet per year, present upstream diversions of water have reduced this inflow to about 17 million acre feet annually.<sup>44</sup> According to bay area conservation groups, projects now under construction may diminish this inflow to about 2.5 million acre feet during a median year.<sup>45</sup>

Present water diversion has produced a series of interrelated deleterious environmental consequences,<sup>46</sup> and future flow reductions coupled with increased effluent discharges can be expected to result in additional alterations in the bay-delta environment.<sup>47</sup> The planned increase in upstream diversion of water, in the amount required to fill increasing contractual commitments,<sup>48</sup> is bound to aggravate presently existing conditions.

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39. *See id.*

40. *See id.*

41. *Id.* at 17.

42. *See generally* U.S. BUREAU OF RECLAMATION, DEP'T OF INTERIOR, PERIPHERAL CANAL UNIT CENTRAL VALLEY PROJECT CALIFORNIA (1966).

43. Bay-Delta Report, *supra* note 9, at 9.

44. *Id.* at 10.

45. *Id.* at 10-11.

46. *See* text accompanying notes 49-81 *infra*.

47. Bay-Delta Report, *supra* note 9, at 3-5. Environmental consequences have arisen despite the intent of planners to consider conservation policies. The California Water Plan is designed, apart from maximizing water resource use, to "outline existing and prospective water problems in each area of the state." ROGERS & NICHOLS, *supra* note 1, § 57, at 67.

48. Bay-Delta Report, *supra* note 9, at 11; *see* ROGERS & NICHOLS, *supra* note 1, § 59, at 76. By 1965, pursuant to the Feather River Project, long-term contracts

## B. Effects of Water Diversion

### 1. *The Anadromous Fishery Resource*

The draught of water from generators for export to state and federal project areas results in reversed and diminished flows in the delta waterway, a situation interfering with the migration of anadromous fish to annual upstream spawning areas.<sup>49</sup> The reversal of normal flows within the delta, causing water to flow toward export pumps rather than toward the sea, confuses the migrating salmon and impedes their ability to reach upstream spawning areas.<sup>50</sup>

A report of the Department of Interior admits the effect of water export pumps on normal spawning runs<sup>51</sup> and suggests the possibility of injury to certain fishery resources:

Streamflow regulation . . . may distribute the captured water into a pattern of seasonal flows which could be beneficial or detrimental to a fishery resource such as salmon and striped bass. . . . [S]pawning runs to certain tributary streams have been virtually eliminated. . . .<sup>52</sup>

Pumping plants draw large numbers of fish larvae, eggs and young fish into the pumps, a situation which has not been remedied by the preventive measures undertaken to date.<sup>53</sup> The loss of immature fish and the failure to take adequate preventive measures to remedy the effect is admitted by the Department of Interior study.<sup>54</sup> The study recommends a program of additional fish hatcheries, construction of artificial spawning areas and the creation of fishing resources in newly constructed reservoirs to "compensate" for admitted losses of salmon, striped bass and American shad.<sup>55</sup> Such proposals are not, of course, attempts to preserve the fishery resource in its natural environment. Implementation of the suggested mitigating program will provide a superficial solution at best.

### 2. *Temperature Changes*

The Department of Interior study reports the existence of unna-

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for water supply had been signed with 30 districts, and other private users, for a total commitment of 4,200,700 acre-feet of water, while the authorized limit for an annual yield was only 4,230,000 acre-feet.

49. Bay-Delta Report, *supra* note 9, at 17.

50. *Id.*

51. VALLEY WATER STUDY, *supra* note 4, 59-60.

52. *Id.* But see CAL. DEP'T OF WATER RESOURCES, BULL. No. 160-66, at B-19 (1967): "By agreement between the operating agencies and California Department of Fish and Game, minimum releases for fish preservation are or will be specified at the outlet works. . . ."

53. Bay-Delta Report, *supra* note 9, at 17.

54. "Loss of downstream migrating immature fish into project diversions is expected to be controlled." VALLEY WATER STUDY, *supra* note 4, at 61 [emphasis added].

55. *Id.*

tural temperature gradients within the delta, a situation attributable, at least in part, to the upstream diversion of water.<sup>56</sup> The temperature increases, though caused by numerous factors, are largely the result of the reduction of fresh water run-off through the delta.<sup>57</sup> Unnatural temperature gradients delay the migration of anadromous fish, increase their mortality and produce both excessive growth of algae and concomitant decreased dissolved oxygen levels.<sup>58</sup>

The existence of decreased dissolved oxygen levels in the bay-delta estuary is acknowledged by the Department of Interior study to be a serious environmental problem.<sup>59</sup> The most serious oxygen enrichment problems are known to exist in the waters of the San Joaquin River, as well as other localized areas in which municipal and industrial effluent discharges are heavy but the flushing flow of fresh water run-off is light.<sup>60</sup>

The resulting depressed dissolved oxygen levels have not been sufficient to support fish life. [T]ogether with reversal of natural flow patterns by export pumping plants, [this problem has] created environmental conditions unsuitable for the passage of anadromous fish (salmon) from the Delta to spawning areas. . . .<sup>61</sup>

The drastic decline of the salmon resource of the San Joaquin River, attributed to the construction of dams and the reduction of fresh water run-off via upstream diversion,<sup>62</sup> will not be alleviated without augmented fresh water flows.<sup>63</sup>

### 3. *Salinity Incursion*

Seawater incursion, the process by which salt water moves inland, compensating for lower fresh water levels, is a function of the volume of run-off permitted to flow through the bay-delta system.<sup>64</sup> Seawater in the western delta has resulted from the incursion of saline water from the San Francisco Bay, and the extent of incursion is determined by the

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56. *Id.* at 60. *Contra*, CAL. DEP'T OF WATER RESOURCES, BULL. No. 123, at 85 (1967).

57. VALLEY WATER STUDY, *supra* note 4, at 60.

58. *Id.*; cf. 3 CAL. STATE WATER QUALITY CONTROL BOARD, WATER QUALITY CONTROL POLICIES FOR CALIFORNIA'S INTERSTATE WATERS, at G-1 to G-2 (1967): "13. Dissolved oxygen shall not fall below [the standard established] with the following exceptions:

. . . .

B. In certain bodies of water which are constructed for special purposes and from which fish have been excluded or the fishery is not important as a beneficial use."

59. VALLEY WATER STUDY, *supra* note 4, at 27.

60. *Id.*

61. *Id.*

62. *Id.* at 66.

63. *See id.*

64. *Id.* at 59; *accord*, McCULLOCH, PETERSON, CARLSON & CONOMOS, PRELIMINARY STUDY OF THE EFFECTS OF WATER CIRCULATION IN THE SAN FRANCISCO BAY



amount of fresh water run-off from the Sacramento and San Joaquin Rivers flowing into the bay.<sup>65</sup> The upstream diversion of these waterways has produced a significant level of salt water incursion, well above that which naturally occurs.<sup>66</sup>

The lower San Joaquin River has experienced dangerously high salt concentrations resulting from the upstream diversion of its natural flow.<sup>67</sup> Although the water of the San Joaquin is usable for agricultural irrigation most of the time, salt water levels have resulted in occasional crop damage.<sup>68</sup> Moreover, an increased flow of fresh water would be required to reverse the process of soil deterioration, that is, to dissolve and flush out the accumulation of salt in the delta soil system.<sup>69</sup> Finally, significant amounts of water normally utilized by delta communities for drinking have exceeded recommended dissolved solid concentration levels established in the Public Health Service Drinking Water Standards.<sup>70</sup>

#### 4. Marshland Destruction

The diversion from the Sacramento-San Joaquin system above the delta may cause irreparable harm to the estuary's Suisun Marsh, a major waterfowl habitat of the Pacific Flyway.<sup>71</sup> Planned reductions in the flow of fresh water into the delta, necessitated by planned increases in water diversion projects, will result in salt water incursion into the delta waterway and thus may shift the salt-to-fresh water gradient as much as 20 miles upstream.<sup>72</sup> Because the ecological balance of the Suisun Marsh is maintained in the presently located salt-to-fresh water gradient,<sup>73</sup> such a transition could seriously damage marshlands producing the basic food supply of migratory waterfowl along the Pacific Flyway.<sup>74</sup>

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ESTUARY at A3 (Dep't of Interior Geological Survey Circular No. 637-A, B, 1970) [hereinafter cited as *WATER CIRCULATION STUDY*], which states that salinity in the bay, and thus in the delta, varies with the seasonal changes in discharge from the streams, rivers and sewage outflows, and by evaporation.

65. VALLEY WATER STUDY, *supra* note 4, at 28.

66. *Id.* at 25.

67. *Id.* at 25-26.

68. *Id.* at 25.

69. *Id.*

70. *Id.* at 26. See also CAL. STATE WATER QUALITY CONTROL BOARD, *WATER QUALITY CRITERIA* 88 (2d ed. 1963): "The use of water by human beings for drinking and other domestic purposes is conceded generally to be the primary, highest, or most essential use of water."

71. Bay-Delta Report, *supra* note 9, at 3.

72. *Id.*

73. *Id.*

74. *Id.*

### 5. *The San Francisco Bay*

Lastly, and perhaps most significantly, the decreased flow of fresh water run-off into the San Francisco Bay has adversely affected the natural mixing of fresh and salt waters within the bay and has reduced the natural flushing action of unimpeded run-off from the Sacramento-San Joaquin system.<sup>75</sup> This phenomenon has had the effect of diminishing water circulation in the San Francisco Bay, where phosphate concentration and water pollution may consequently become massive problems.<sup>76</sup> The Department of Interior study is again in accord:

[T]he Bay-Delta system has no additional assimilative capacity for wastes above quantities now being discharged. Eutrophication of the system, particularly in the Delta and South Bay, is well advanced. Increasing wasteloads and decreasing availability of "flushing" water . . . will inevitably accelerate the eutrophication of the system.<sup>77</sup>

This sweeping indictment was made in the study by the federal agency administering much of the California Water Plan. Its conclusion was shared by a similar Department of Interior study.<sup>78</sup> The extent to which the South San Francisco Bay water quality has deteriorated is evidenced by the following conclusions of the California Water Quality Control Board regarding the ability of bay waters to support life:

The Southern Estuary now exhibits the most serious reduction of benthic animal diversity due to toxicity and the highest level of nutrients. *Both phenomena are associated at least in part with an insufficiency of tidal exchange and flushing flows to dilute the municipal and industrial effluents now discharged to the area.*<sup>79</sup>

In the face of the impending death of the San Francisco Bay estuary stands the projected demand for additional water in southern and central California.<sup>80</sup> If the demand for additional water export to the

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75. *See id.*

76. *See id.* 13-16. *See also* WATER CIRCULATION STUDY, *supra* note 64, at A15: "[T]he annual change in phosphate in the south bay water shows an inverse relation with the Sacramento River discharge."

77. VALLEY WATER STUDY, *supra* note 4, at 68.

78. WATER CIRCULATION STUDY, *supra* note 64, at A-18: "The observed seasonal change in the phosphate concentration in the south bay . . . does . . . correspond with the seasonal change in the Sacramento River discharge. Apparently *changes in the net flow of fresh water to the bay from the source is an important controlling factor in flushing the south bay.*" [emphasis added]

79. CAL. STATE WATER QUALITY CONTROL BOARD, BIOLOGICAL-ECOLOGICAL STUDY, Task VII-1b, at V-9 (1968) [emphasis added]. *See also* 3 CAL. STATE WATER QUALITY CONTROL BOARD, WATER QUALITY CONTROL POLICIES FOR CALIFORNIA'S INTERSTATE WATERS, at G-3 (1967): "18. Toxic materials shall not be present in quantities sufficient to be harmful to human, plant, animal or aquatic life."

80. "By 2020 population is projected to increase three- to five-fold. . . . Both projected importation of water from the North Coast to the Central Valley and exportation to Southern California will increase dramatically." VALLEY WATER STUDY, *supra* note 4, at 2.

south is met, the resulting flow attrition is certain to produce concomitant deterioration of the water quality of the entire bay-delta region.<sup>81</sup>

### III. State Preservation of the Source Areas

#### A. Watershed Protection

Millions of people in communities surrounding the San Francisco Bay depend upon the estuary's waters for recreation, commerce, waste emplacement and aesthetic enjoyment.<sup>82</sup> Despite these environmental considerations, an examination of California's enabling legislation indicates an overriding interest in protecting its water plan.

The first state legislative expression of a protective policy toward water projects appeared in 1931 in a "county of origin" statute.<sup>83</sup> Although the statute provided for the cessation of water export projects which deprived the "county of origin" of water necessary to its development, the basis of water export abatement was interference with *development*, not with environmental quality. Similarly, the Watershed Protection Law<sup>84</sup> provides that, in the operation of state and federal water diversion projects, water export from a source area is subject to abatement only when the export of water would deprive adjacent land of water necessary to development.<sup>85</sup> The act requires the Department of Water Resources and Bureau of Reclamation to refrain from depriving watershed areas of the water "reasonably required to adequately supply the beneficial needs of the watershed, area, or any of the inhabitants or property owners therein."<sup>86</sup> Although the "beneficial needs of the watershed" could be construed to encompass environmental considerations, the preservation of the watershed environment is not an express consideration of this legislation.<sup>87</sup>

An early California case, *Herminghaus v. Southern California Edison Co.*,<sup>88</sup> did afford a downstream riparian landowner relief against subsequent nonriparian appropriators, even though the riparian owner was wasteful in his use of the stream. This decision, however, was so inconsistent with the need for water transfer for development purposes that early proponents of a comprehensive water transfer scheme spon-

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81. Bay-Delta Report, *supra* note 9, at 8. *But cf.* ROGERS & NICHOLS, *supra* note 1, § 26, at 43: "[T]he Central Valley Project has improved navigation, provided for flood control, furnished water for municipal as well as industrial use, enhanced fish and wildlife values, helped repel salinity in the Delta and provided recreational opportunities for millions."

82. WATER CIRCULATION STUDY, *supra* note 64, at A-1.

83. *See* Cal. Stat. 1931, ch. 720, at 1514, *as amended*, CAL. WATER CODE § 10505.

84. CAL. WATER CODE §§ 11460-65.

85. *See id.* § 11460.

86. *Id.*

87. *See id.* §§ 11460-65.

88. 200 Cal. 81, 252 P. 607 (1926).

sored a constitutional amendment,<sup>89</sup> subsequently enacted, to correct the discrepancy.<sup>90</sup> The amendment to the California Constitution prohibits *wasteful* and *unreasonable use* of the state's water resources.

The constitutional mandate was enforced by the court in *Gin S. Chow v. City of Santa Barbara*.<sup>91</sup> The court directed that water resources be "[p]ut to beneficial use to the fullest extent of which they are capable"<sup>92</sup> by preventing the waste of water which results when runoff is permitted to "flow unused, unrestrained, and undiminished to the sea."<sup>93</sup> In subsequent decisions, the riparian owner of land could retain his remedy against an upstream diversion which caused pollution of his water supply only if the diversion materially impaired the value of the downstream owner's land.<sup>94</sup> Upstream diversions would permit the injured downstream owner to recover damages where the flushing effect of the diverted stream was hampered, causing the downstream water to become stagnant, to emit foul odors, and to become covered with weeds, slime and mosses.<sup>95</sup> Though such cases afforded the recovery of damages, no injunctive relief was available if the water diversion was deemed to be serving the public interest.<sup>96</sup> The California courts, having emphasized the constitutional policy of maximum water use, chose to overlook environmental benefits arising from the unimpeded flow of fresh water streams. The courts have never attempted to construe the "beneficial needs of the watershed" as including environmental considerations.

## B. California Water Quality Control

The heart of the new California water quality control law is the Porter-Cologne Act.<sup>97</sup> Under provisions of the act, the State Water Resources Control Board and nine regional boards are empowered to formulate policies for the purpose of controlling water pollution.<sup>98</sup> The

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89. See CAL. CONST. art. XIV, § 3: "It is hereby declared that because of the conditions prevailing in this State *the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable*, and that waste or unreasonable use . . . of water be prevented, and that the conservation of such water be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare. . . ." [emphasis added].

90. See *Gin S. Chow v. City of Santa Barbara*, 217 Cal. 673, 699, 22 P.2d 5, 15 (1933).

91. 217 Cal. 673, 22 P.2d 5 (1933).

92. *Id.* at 699, 22 P.2d at 15.

93. *Id.* at 700, 22 P.2d at 16.

94. *E.g.*, *Albaugh v. Mt. Shasta Power Corp.*, 9 Cal. 2d 751, 73 P.2d 217 (1937).

95. *E.g.*, *McArthur v. Mt. Shasta Power Corp.*, 3 Cal. 2d 704, 45 P.2d 807 (1935); *Crum v. Mt. Shasta Power Corp.*, 220 Cal. 295, 30 P.2d 30 (1934).

96. *Albaugh v. Mt. Shasta Power Corp.*, 9 Cal. 2d 751, 759, 73 P.2d 217, 224 (1937).

97. CAL. WATER CODE §§ 13000-908.

98. *Id.* §§ 13140-68, 13225-47.

act purports to control water pollution by regulating factors affecting water quality.<sup>99</sup> That policy is thwarted, however, by requirements in the act instructing the boards to consider "*all demands being made on those waters and the total values involved. . . .*"<sup>100</sup> Implied in that provision is a reminder to water quality control boards that any attempt at controlling factors affecting water pollution must be viewed in the light of the state's policy of maximum water use.

When formulating policy, the nine regional water quality control boards are authorized to consider the problems of salinity intrusion and low waste-assimilative capacity,<sup>101</sup> both of which are compounded by reductions in fresh water run-off.<sup>102</sup> Regional boards are also instructed, however, to consider the possible effects of their actions upon the State Water Plan or "any other . . . governmental plan looking toward the development, utilization or conservation of the water resources of the state."<sup>103</sup> In addition, the policies of regional boards are not given effect without the approval of the state board.<sup>104</sup> It is unlikely that the State Water Resources Control Board will adopt a regional standard which would limit water diversion and thus work to the detriment of the State Water Plan. The effect of these provisions is that while regional boards may formulate policies which conflict with the goals of the State Water Plan, they are not able to implement such policies without state board approval and as a consequence are not likely to implement policies requiring the abatement or severe limitation of water diversion projects.

### C. Stored Water Releases

Water quality control by fresh water flow maintenance is postulated to be the most feasible means of alleviating seawater incursion, agricultural waste accumulation in delta waters, the decreasing waste-assimilative capacity of the bay-delta system and the eutrophication of bay-delta waters.<sup>105</sup> The control of the flow of fresh water could be implemented by a systematic release of water stored in state and federal reservoirs.<sup>106</sup> While reservoir discharges are permitted for the purpose of water export, however, neither the state board nor the nine regional water quality control boards have the power to enforce the release of

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99. *Id.* § 13000.

100. *Id.*

101. *Cf.* 44 OPS. CAL. ATT'Y GEN. 126, 128, 130 (1964). The opinion contains an interpretation of the former water quality law which had wording similar to the section of the Porter-Cologne Act discussed.

102. See text accompanying notes 64-70, 75-81 *supra*.

103. CAL. WATER CODE § 13225(h).

104. *Id.* § 13245.

105. VALLEY WATER STUDY, *supra* note 4, at 89.

106. See *id.*

stored water for purposes of water quality via flow maintenance.<sup>107</sup>

The manner in which the Porter-Cologne Act is shaped to the policy of maximum water use, and specifically to the provisions of the State Water Plan, provides little opportunity for the abatement of water plan development through California water quality legislation. Because of the inability of local water quality control boards to enforce policies designed to preserve local environmental amenities when such policies conflict with the maximum-use objective of the State Water Plan, the administrative agencies established by the Porter-Cologne Act are unlikely to prohibit the upstream diversion of water. Similarly, they are unable to ameliorate the effects of stream flow diversion by the release of reservoir-stored water.

#### IV. Applicable Federal Legislation

Although California legislation designed to preserve water quality is patently ill-equipped to combat the ecological consequences of the California Water Plan, applicable federal legislation has not been so indifferent to environmental conservation. The California Water Plan and its ramifications seem to fall within the parameters of several federal enactments designed to prevent the undertaking or continuation of state and federal projects having adverse environmental consequences.

##### A. The Rivers and Harbors Act of 1899

The navigation of the Sacramento River forms an important part of the transportation facilities of the central valley of California.<sup>108</sup> River barges are used to export forest products and agricultural produce from the valley, while importing oil, gasoline and vital manufactured products.<sup>109</sup> The diversion of water from the Sacramento River has resulted in unnaturally decreased stream flows.<sup>110</sup> Although there is no indication that the creation of unnatural flows has adversely affected the navigable capacity of the Sacramento River,<sup>111</sup> the decrease and reversal of natural flows has produced severe environmental consequences.<sup>112</sup> Such consequences suggest the possibility that the diversion of navigable delta waterways has proceeded in violation of section 10 of the Rivers and

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107. See CAL. WATER CODE §§ 13000-908. *But cf.* CAL. DEP'T OF WATER RESOURCES, BULL. NO. 160-66 (1967). The Department of Water Resources does maintain a minimum level of outflow via reservoir releases. Those releases are made, however, on the basis of outflow requirements determined to be necessary for adequate water quality by the department, and not pursuant to a legislative mandate for purposes of environmental conservation. See text accompanying notes 196-210, *infra*.

108. VALLEY WATER STUDY, *supra* note 4, at 18.

109. *Id.*

110. *Id.* at 59.

111. See note 81 *supra*.

112. See text accompanying notes 49-81 *supra*.

Harbors Act of 1899.<sup>113</sup>

Operations of the pumping plants of the Bureau of Reclamation and the State Department of Water Resources, without the authorization of a permit from the Secretary of the Army as required in the act,<sup>114</sup> could place state and federal water diversion projects in contravention of the statute. Section 10 of the Rivers and Harbors Act prohibits *any obstruction* of a navigable waterway.<sup>115</sup> A finding that the water plan is violative of the act would therefore require: 1) that the upstream diversion of the Sacramento's waters be considered an "obstruction" of the river within the purview of the act; and 2) that such an obstruction, while not interfering with the navigable capacity of the Sacramento River, is nevertheless subject to abatement because environmental consequences are a proper consideration of the act.

1. *Water Diversion as an Obstruction*

In *Sanitary District of Chicago v. United States*,<sup>116</sup> the Supreme Court prohibited the continued withdrawal of water from streams which empty into Lake Michigan on the grounds that such withdrawals were affecting the level of waterways in the Great Lakes system and thus their navigable capacities; and that under the Rivers and Harbors Act the continued withdrawal could not be undertaken without the authorization of the Secretary of War.<sup>117</sup> Although California's Water Plan does not appear to interfere with the navigability of the Sacramento River,<sup>118</sup> *Sanitary District* is important because the Supreme Court interpreted water withdrawal as a form of *obstruction*. The continued withdrawal of water from the streams which flow into Lake Michigan was expected to produce a decline in the level of lakes and rivers in the Great Lakes system, thereby threatening to obstruct navigability.<sup>119</sup> By analogy, the withdrawal of water from the Sacramento River for the pur-

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113. 33 U.S.C. § 403 (1964) (originally enacted as ch. 425, § 10, 30 Stat. 1151) provides, in part: "The creation of *any obstruction* not affirmatively authorized by Congress, to the navigable capacity of any of the waters of the United States is hereby prohibited; . . . it shall not be lawful to excavate or fill, or in any manner to alter or modify the course, location, condition, or capacity of any port, roadstead, haven, harbor, canal, lake, harbor of refuge, or enclosure within the limits of any breakwaters, or of the channel of any navigable waters of the United States, *unless the work has been recommended by the Chief of Engineers and authorized by the Secretary of the Army prior to beginning the same.*" [emphasis added].

114. *Id.* See note 144 *infra*.

115. 33 U.S.C. § 403 (1964). See note 113 *supra*.

116. 266 U.S. 405 (1924).

117. *Id.* at 423-26. Provisions of the act initially required the authorization of the Secretary of War, ch. 425, § 10, 30 Stat. 1151 (1899), but the act, as amended, requires the authorization of the Secretary of the Army. See note 113 *supra*.

118. The California Water Plan seems to have improved the navigability of the Sacramento River. See note 81 *supra*.

119. 266 U.S. at 423.

pose of export, which is known to produce a decrease in natural flow,<sup>120</sup> could be found to obstruct the normal flow of the river into the bay-delta estuary.

*Sanitary District* additionally determined that the power of the United States to remove obstructions to commerce on a navigable waterway was superior to the state's right to provide for the welfare of its inhabitants.<sup>121</sup> Similarly, the provision of the California Constitution, added by amendment with a view towards justifying the water plan as being in the "public interest,"<sup>122</sup> must stand inferior to federal legislation providing for the removal of obstructions to the navigable Sacramento River.

The Rivers and Harbors Act was applied in the 1928 Supreme Court case of *Wisconsin v. Illinois*.<sup>123</sup> That case involved the Court's prohibition of water diversion for the purpose of facilitating sewage disposal because of its possible effect on the navigable capacity of the Chicago River. Chicago's sewage disposal planners relied on the argument that such a prohibition might endanger the health of Chicago inhabitants.<sup>124</sup> The sanitary district, however, had long delayed the construction of suitable sewage disposal plants as an alternative to the unlawful diversion of water,<sup>125</sup> and the Court determined that the district could not now be heard to complain of the immediately heavy expenditures needed to construct an alternative to the water diversion proposal.<sup>126</sup> Threatened cessation of California water diversion projects would bring similar arguments of endangered public welfare, but such arguments could be met with an analogue of the Supreme Court's response to proponents of the Chicago sewage disposal plan.<sup>127</sup>

## 2. *Applicability to Environmental Consequences*

Application of the Rivers and Harbors Act to the California Water Plan, in the absence of proof that stream flow diversion has adversely affected the navigability of the Sacramento River, would require that

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120. See text accompanying notes 43-45 *supra*.

121. *Sanitary Dist. v. United States*, 266 U.S. 405 (1924); *cf. Monongahela Bridge Co. v. United States*, 216 U.S. 177 (1910).

122. CAL. CONST., art. XIV, § 3.

123. 278 U.S. 367 (1929).

124. *Id.* at 420-21.

125. *Id.*

126. *Id.*

127. Alternatives to interbasin water transfer could be implemented:

"1. A new . . . state development plan should insure that new urban developments to accommodate the second 20 million Californians will be dispersed and located . . . in areas [other than those presently over-populated].

2. Waste water . . . should be reclaimed, demineralized, re-used and recycled, rather than . . . lost as a water resource.



there be precedent for the act's application where an alteration of a navigable waterway would have deleterious ecological effects.

Early cases involving the Rivers and Harbors Act involved only navigational problems;<sup>128</sup> the one exception was *United States ex rel. Greathouse v. Dern*.<sup>129</sup> In *Greathouse* the Secretary of the Army, while factually determining that the building of a wharf would not interfere with navigation, denied the permit nonetheless.

The importance of *Greathouse* is that it recognized that the Corps of Engineers does not have to wear navigational blinders when it considers a permit request. That there must be a reason [to deny a permit request] does not mean that the reason has to be navigational.<sup>130</sup>

When *Zabel v. Tabb*<sup>131</sup> was brought in the Federal District Court of Florida, the court held, in accordance with the earlier navigational cases, that provisions of the Rivers and Harbors Act did not vest the Secretary of the Army with the discretionary authority to deny a federal project construction permit on a navigable waterway merely because such construction might be environmentally undesirable. Even when read in *pari materia* with the Fish and Wildlife Coordination Act,<sup>132</sup> which requires consultation with conservation agencies before proceeding with any project related to water resources,<sup>133</sup> the Rivers and Harbors Act did not, according to the district court, give the Secretary of the Army authority to deny permit applications where factual indications were that proposed construction would not interfere with navigation.<sup>134</sup>

The reversal of that decision on appeal to the Fifth Circuit adds particular strength to the argument that the Rivers and Harbors Act is

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3. Each region of the state . . . should meet its water needs from its own resources.

4. Coastal areas should meet their ultimate needs by a combination of wastewater reclamation and seawater conversion. . . .

5. The Central Valley should meet its ultimate needs by transferring a portion of winter flood flows of the Sacramento River to the San Joaquin Valley . . . and [should] utilize underground storage capacity in the San Joaquin Valley to smooth out cycles of wet and dry years." Stead, *A New Water Plan for California*, CRY CALIFORNIA 1, 12 (1969).

128. See, e.g., *United States v. Republic Steel Corp.*, 362 U.S. 482 (1960); *Wisconsin v. Illinois*, 278 U.S. 367 (1929); *Sanitary Dist. v. United States*, 266 U.S. 405 (1924).

129. 289 U.S. 352 (1933). A parkway had been approved which would necessitate the condemnation of plaintiff's land. Consequently, if the permit had been granted it would only have increased the amount of the condemnation award at the Government's expense.

130. *Zabel v. Tabb*, 430 F.2d 199, 208 (5th Cir. 1970).

131. 296 F. Supp. 764 (M.D. Fla. 1969).

132. 16 U.S.C. §§ 661-66 (1964).

133. *Id.* § 662a.

134. *Zabel v. Tabb*, 296 F. Supp. 764 (M.D. Fla. 1969).

applicable to the California Water Plan.<sup>135</sup> According to the appellate decision in *Zabel*, the act grants to the Secretary of the Army the authority to deny water project construction permit applications<sup>136</sup> when conditions do not warrant or justify the issuance of a permit.

The act, however, does not prescribe what those conditions must be. The real issue which *Zabel* considered, therefore, was whether the Secretary of the Army can include the conservation of the project area as a condition to be met before permits may be granted. Relying upon *Greathouse*, the *Zabel* case affirmed the right of the Secretary of the Army to deny a permit for construction of a project on a navigable waterway because of the possible ecological consequences of such construction.<sup>137</sup> The court further stipulated that, in the execution of statutory responsibilities, government agencies are required to "sometimes effectuate and other times not thwart other valid statutory governmental policies."<sup>138</sup> In so stipulating, the court voiced approval of the Secretary of the Army's consideration of the government-wide policy of environmental conservation, as exhibited most notably in the National Environmental Policy Act of 1969.<sup>139</sup>

The diversion of water in state and federal water projects seems within the purview of the Rivers and Harbors Act.<sup>140</sup> According to *Zabel v. Tabb*, the Secretary of the Army may consider the environmental conservation of the project area as a condition to granting the project permit.<sup>141</sup> If *Zabel v. Tabb* is applicable to the California Water Plan, the Bureau of Reclamation and the California Department of Water Resources, in the execution of their statutory responsibilities, are required to effectuate, or at least not to inhibit, the government's statutory policy of environmental conservation.<sup>142</sup> The California water diversion projects, however, have created environmental abuses,<sup>143</sup> and the water export operations have continued without the authorization of the Secretary of the Army.<sup>144</sup> Such operations, and the future construction of

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135. *Zabel v. Tabb*, 430 F.2d 199 (5th Cir. 1970).

136. *Id.* at 207.

137. *Id.* at 201.

138. *Id.* at 209.

139. 42 U.S.C. §§ 4321-47 (Supp. V, 1970); cf. *Iowa v. FPC*, 178 F.2d 421 (8th Cir. 1949), cert. denied, 339 U.S. 979 (1950). See also *Citizens Committee v. Volpe*, 302 F. Supp. 1083 (S.D.N.Y. 1969), aff'd, 425 F.2d 97 (2d Cir. 1970).

140. See 33 U.S.C. § 403 (1964).

141. *Zabel v. Tabb*, 430 F.2d 199 (5th Cir. 1970).

142. See *id.*

143. See text accompanying notes 49-81 *supra*.

144. Telephone interview with Gary Smith, a member of the staff of the Army Corps of Engineers, Sacramento Office, November 20, 1970. Mr. Smith stated that the operation of the state's aqueduct pumps at Tracy has proceeded without a permit pursuant to the Rivers and Harbors Act because the pumping station is not located in a navigable section of the delta. The diversion of water from any section of the

water diversion projects without the authorization of permits, apparently will proceed in direct contravention of section 10 of the Rivers and Harbors Act.

## B. The Federal Conservation Policy

The federal response to increasing public concern over environmental problems has been to promulgate a national conservation policy through congressional legislation.<sup>145</sup> While the thrust of environmental legislation to date has been primarily to regulate man's continuing discharge of effluence into the environment, a considerable body of legislation now exists dealing with the management and use of the earth's diminishing natural resources. The implementation of the California Water Plan has proceeded in violation of several of the federal legislative mandates established by these statutes.

### 1. Fish and Wildlife Protection

The diversion of the Sacramento and San Joaquin Rivers, so destructive to the anadromous fishery resource, is violative of the Fish and Wildlife Coordination Act of 1958.<sup>146</sup> That act provides that whenever any stream is authorized for diversion by any federal agency, or any public or private agency under federal permit, "such department or agency shall consult with the United States Fish and Wildlife Services, Department of the Interior . . . with a view to the conservation of wildlife resources. . . ."<sup>147</sup> The Secretary of the Interior, in coordination with the resource management agency of the state in which the project is located, is chiefly responsible for the implementation of the policy mandates established by the act.<sup>148</sup>

The act was applied in *Udall v. Federal Power Commission*,<sup>149</sup> where the Secretary of the Interior asserted, and was upheld by the Supreme Court, that wildlife conservation of a federally sanctioned project was a necessary consideration of project planning.<sup>150</sup> The Court in-

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Sacramento-San Joaquin system, however, is likely to produce an alteration of the natural flow of the entire system, and can be seen, therefore, to effect navigable areas as well.

145. See text accompanying notes 146-95 *infra*.

146. 16 U.S.C. §§ 661-66 (1964).

147. *Id.* § 662(a). Conveyancing facilities which are or will be within the purview of the Fish and Wildlife Coordination Act, because administered in part or in whole by the Bureau of Reclamation, include the Delta-Mendota Canal, the San Luis Canal, the Contra Costa Canal, the Peripheral Canal, the East Side Division, the Auburn-Folsom South, the West Sacramento Canal, the Trinity River Division and the Tehama-Colusa Canal. VALLEY WATER STUDY, *supra* note 4, at 51-55.

148. *Id.* § 663(b).

149. 378 U.S. 428 (1967).

150. *Id.* at 443-44. *But cf.* Rank v. Krug, 90 F. Supp. 733 (S.D. Cal. 1950): Prior to the passage of the Fish and Wildlife Coordination Act, the consideration of

sisted that the Federal Power Commission consult with Secretary Udall for the purpose of enforcing wildlife conservation policies consistent with the act.<sup>151</sup>

The water plan has failed to effectively enforce the preservation of the wildlife resources of the delta environment as directed in the act.<sup>152</sup> Because the Fish and Wildlife Coordination Act should be considered in *pari materia* with development programs affecting water resources,<sup>153</sup> the development of conservation policies in the bay-delta region should have received equal consideration with other features of the California Water Plan. Unfortunately, it has not.<sup>154</sup>

Planning and development deficiencies of the past, however, do not constitute justification for continuing flagrant violations of an express national policy in the future. Any further implementation of the California Water Plan should be temporarily postponed until adequate provision is made to ensure the compliance of future projects with the Fish and Wildlife Coordination Act of 1958.

## 2. Federal Water Pollution Control

Another arm of the federal conservation policy is projected by the Federal Water Pollution Control Act, as amended by the Water Quality Improvement Act of 1970.<sup>155</sup> That legislation prohibits the pollution of navigable waters when the health or welfare of any person is thereby endangered.<sup>156</sup>

Since the diversion of water from the central valley basin has produced a decreased waste-assimilative capacity in the bay-delta system,<sup>157</sup> the waterway has been rendered less able to tolerate the discharge of effluents without subsequent adverse effects upon water quality. The construction of additional water diversion projects will undoubtedly reduce the flushing flow of fresh water run-off to intolerable levels.<sup>158</sup> Because these flows are so essential to the effective removal of pollutants from the bay-delta system,<sup>159</sup> the ever-increasing discharge of human

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fish and wildlife resources was not a necessary consideration of water project development.

151. 378 U.S. at 443-44.

152. Compare 16 U.S.C. § 662(a)(1964) with text accompanying notes 49-81 *supra*.

153. "The Amendments would provide that wildlife conservation shall receive equal consideration with other features of planning of Federal water resource development programs." S. REP. NO. 1981, 85th Cong., 2d Sess. 5 (1958).

154. See text accompanying notes 49-81 *supra*.

155. 84 Stat. 91, amending Federal Water Pollution Control Act, 33 U.S.C.A. §§ 1151-75 (1970).

156. 33 U.S.C.A. § 1160 (1970).

157. VALLEY WATER STUDY, *supra* note 4, at 68.

158. Bay-Delta Report, *supra* note 9, at 3.

159. VALLEY WATER STUDY, *supra* note 4, at 68.

and industrial waste may overload the already diminishing waste-assimilative capacity of bay-delta waters.<sup>160</sup> The pollution of the San Francisco Bay, a waterway utilized by millions of people inhabiting its shoreline for commerce, fishing, recreation and aesthetic pleasure,<sup>161</sup> can surely be said to endanger the health and welfare of bay area residents. The diversion of central valley basin waters should be subject to abatement under the Federal Water Pollution Control Act as a factor contributing to water pollution in the bay and delta and as a likely threat to the health and welfare of Bay Area inhabitants.

Regrettably, the act suffers from one major omission; although two separate sections mention the feasibility of releasing reservoir-stored water for the purpose of regulating the flow of polluted streams,<sup>162</sup> a policy designed to relieve depressed waste-assimilative capacities, there is no water-release provision in the vital enforcement section of the act.<sup>163</sup> The enforcement section only calls for a coordinated effort between the Administrator of the Environmental Protection Agency and the state water pollution control agencies for the purpose of securing the cessation of pollution-causing activities and the institution of remedial measures.<sup>164</sup> The absence of an express provision requiring the release of stored water to alleviate a waterway's low waste-assimilative capacity, however, does not mean that an enforcement provision should not be inferred from the policy provisions of the act.<sup>165</sup> Since various policy provisions recommend the use of such remedial measures,<sup>166</sup> it is reasonable to conclude that Congress intended such a construction. If the Federal Water Pollution Control Act is found to be inapplicable to the cessation of stream flow diversion as a factor contributing to water pollution, it should at least be applied, via the release of stored water, to mitigate the adverse effect of diversion on the waste-assimilative capacity of the bay-delta region.<sup>167</sup>

### 3. *Related Federal Conservation Legislation*

The failure of the California Water Plan to provide for the conservation of the project source areas places the state and federal opera-

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160. Bay-Delta Report, *supra* note 9, at 3.

161. WATER CIRCULATION STUDY, *supra* note 64, at A1.

162. 33 U.S.C.A. §§ 1153(b)(1), 1155(d) (1970).

163. *See id.* § 1160.

164. The duties of the Administrator of the Environmental Protection Agency were formerly vested in the Secretary of the Interior in 33 U.S.C.A. § 1160(c)-(f) (1970). Pursuant to Reorganization Plan No. 3 of 1970, all functions vested in the Secretary of the Interior or Department of the Interior by the Federal Water Pollution Control Act were transferred to the newly-created Environmental Protection Agency. Reorganization Plan No. 3 of 1970, § 2, [1970] U.S. CODE CONG. & AD. NEWS 2996-97.

165. 33 U.S.C.A. §§ 1151, 1160 (1970).

166. *Id.* §§ 1153(b)(1), 1155(d).

167. *See* note 107 & text accompanying notes 75-81 *supra*.

tions in contravention of several additional congressional policies.<sup>168</sup>

It is the stated policy of Congress, in the Migratory Birds Act,<sup>169</sup> to preserve and restore "game birds and other wild birds."<sup>170</sup> The predicted harm to the Suisun Marsh, a major waterfowl habitat of migratory birds,<sup>171</sup> raises the possibility that water diversion is inconsistent with the aims of that statute. Upstream diversion and planned reductions in fresh water run-off to the delta could irreparably damage the ecology of the Suisun Marsh, presently supporting bird migrations along the Pacific Flyway.<sup>172</sup> The destruction of the marsh land, source of an important food supply for migrating birds, is contrary to the protective policy established by the act.

The Anadromous Fish Act of 1965<sup>173</sup> was enacted for the purpose of "conserving, developing, and enhancing . . . the anadromous fishery resources of the Nation. . . ."<sup>174</sup> The act speaks to the rapidity of water resource development and emphasizes that the heavy misuse of water comprises a real threat to the maintenance of "significant levels of fish populations."<sup>175</sup> The construction of water diversion projects causing the loss of millions of striped bass eggs and fish larvae, and the disruption of the spawning runs of migrating salmon,<sup>176</sup> does not reflect concern for the preservation of the nation's anadromous fishery resource. Disregard for the fishery resource of the Sacramento-San Joaquin system places the state and federal water projects in direct contravention of the conservation policy established in the Anadromous Fish Act.<sup>177</sup>

The conservation policies espoused in these congressional acts are plainly mandates to the agencies implementing the California Water Plan—mandates which require that the agencies adhere to sound conservation policies.<sup>178</sup> The substantial destructive alteration of the bay-delta environment by the California Department of Water Resources and the Bureau of Reclamation places both agencies in violation of their statutory responsibilities.

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168. See text accompanying notes 169-77 *infra*.

169. 16 U.S.C. §§ 701-18 (1964), *as amended*, 16 U.S.C. §§ 705, 715, 718 (Supp. V, 1970).

170. *Id.* § 701.

171. Bay-Delta Report, *supra* note 9, at 3.

172. *Id.*

173. 16 U.S.C. §§ 757(a)-(f) (Supp. V, 1970).

174. *Id.* § 757(a).

175. S. REP. NO. 860, 89th Cong., 1st Sess. 5 (1965).

176. Bay-Delta Report, *supra* note 9, at 3.

177. 16 U.S.C. § 757(a) (Supp. V, 1970).

178. See text accompanying notes 146-77 *supra*. But see National Estuarine Areas Act of 1968, 16 U.S.C. §§ 1221-26 (Supp. V, 1970), which establishes a conservation policy with regard to the nation's estuaries, but which, in section 1226 of the same act, specifically exempts estuaries in which federal agencies are authorized to carry out federal projects.

### C. The National Environmental Policy Act of 1969

The California Water Plan's state and federal water projects may also be found to be operating in violation of the National Environmental Policy Act (NEPA) of 1969.<sup>179</sup>

The NEPA establishes a policy of eliminating and preventing "damage to the environment and biosphere."<sup>180</sup> Its importance as applied to the California Water Plan derives from its directives to government agencies concerning conservation of the environment in the construction of federal projects. The act provides that "to the fullest extent possible" laws and policies of the United States should be interpreted according to policies set forth in the NEPA.<sup>181</sup>

In pursuit of this policy, the NEPA requires that all federal agencies consult the Council on Environmental Quality<sup>182</sup> to insure that "environmental amenities and values . . . be given appropriate consideration. . . ."<sup>183</sup> The act requires that all such agencies "include in every recommendation or report on proposals for legislation and other major federal actions significantly affecting the quality of the human environment, a detailed statement" concerning the environmental impact of the action to be taken.<sup>184</sup> This provision seems to require the agencies of the Federal Government that are responsible for implementation of water projects to comply with directives of the NEPA.<sup>185</sup> Before the NEPA can be invoked against the California Water Plan, however, it must be determined whether its provisions are applicable to the development of ongoing projects and, if so, to what degree its provisions will affect the planned development of the water plan.

There are several recent cases which directly concern the applicability of the NEPA to ongoing projects. In *Texas Committee on Natural Resources v. United States*,<sup>186</sup> and again in *Wilderness Society v.*

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179. 42 U.S.C. §§ 4321, 4331-35, 4341-47 (Supp. V, 1970).

180. *Id.* § 4321.

181. *Id.* § 4332.

182. *See id.* § 4342.

183. *Id.* § 4332(B).

184. *Id.* § 4332(C). This section requires that the agencies' detailed statements of environmental impact contain "(i) the environmental impact of the proposed action, (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented, (iii) alternatives to the proposed action, (iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and (v) any irreversible and irretrievable commitment of resources which would be involved in the proposed action should it be implemented."

185. *Id.*

186. 1 BNA ENV. REP. 1303 (W.D. Tex. Feb. 5, 1970). The court granted a stay order enjoining construction by the Farmers Home Administration on grounds that the Texas environmental group would have a substantial possibility of success, on appeal to the Fifth Circuit, with the argument that the Farmers Home Administration should comply with the NEPA since no money had yet been expended and no construction begun.

*Hickel*,<sup>187</sup> federal district courts issued interlocutory orders, pursuant to the NEPA, enjoining the completion of federal projects where substantial preparation for construction had begun. These cases seem to imply that ongoing federal projects in developmental stages should be subject to NEPA provisions.

The contrary position was taken by the federal district court in *Pennsylvania Environmental Council, Inc. v. Bartlett*,<sup>188</sup> where it was held that the NEPA was not intended by Congress to be retroactively applied. The court in *Bartlett* determined that the language of the NEPA, which includes terms urging compliance "to the fullest extent possible"<sup>189</sup> and the use of "all practicable means possible,"<sup>190</sup> was indicative of a flexible and pragmatic approach to the application of the statute and could not be interpreted as evidence of a retroactive intent.<sup>191</sup>

In enacting the NEPA, Congress intended that each federal agency comply with the act's directives "unless the existing law applicable to such agency's operations expressly prohibits or makes full compliance impossible."<sup>192</sup> To this end, the Council on Environmental Quality, created by the NEPA,<sup>193</sup> has issued directives relevant to the retroactivity issue. It has directed that, to the "fullest extent possible," the section of the NEPA establishing procedures to be followed by federal agencies should be applied to future actions having significant effects on the environment even though they arise from programs, such as the water plan, which have been initiated prior to enactment of the NEPA on January 1, 1970.<sup>194</sup> In addition, the Council on Environmental Quality has directed that, where it is not practicable to reassess the basic course of action, environmental consequences should be minimized and future action should be taken only after investigation into environmental consequences not fully evaluated at the project's outset.<sup>195</sup> Even if the NEPA is found by the courts to be unsuited to retroactive application, directives of the Council on Environmental Quality could be relied upon to limit future expansion of federal water projects, including the California Water Plan, and to enforce the mitigation of the project's en-

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187. 1 BNA ENV. REP. 1335 (D.D.C. Apr. 23, 1970). The court issued a preliminary injunction under the NEPA pursuant to application for permits for the construction of rights of way by the oil companies building the Trans-Alaska Pipeline. The injunction was granted pending further litigation despite the fact that substantial preliminary steps to pipeline construction had been taken.

188. 315 F. Supp. 238 (M.D. Pa. 1970). See also *Green v. United States*, 376 U.S. 149 (1964); *Union Pac. R.R. v. Laramie Stock Yards*, 231 U.S. 190 (1915).

189. 42 U.S.C. § 4331 (Supp. V, 1970).

190. *Id.* § 4332.

191. 315 F. Supp. at 248.

192. H.R. REP. No. 765, 91st Cong., 1st Sess. 9 (1969).

193. 42 U.S.C. § 4342 (Supp. V, 1970).

194. 35 Fed. Reg. 7390 (May, 1970).

195. *Id.*



vironmental consequences.

#### D. Water Flow Regulation

On November 19, 1965, representatives of the State Department of Water Resources, the Bureau of Reclamation, the Sacramento Delta Water Association and the San Joaquin Water Rights Committee (the latter representing agricultural interests in the delta), approved water quality criteria as a basis for negotiating agreements between delta land-owners and operators of state and federal water projects.<sup>196</sup> Although the standards proposed by this agreement were approved by the Secretary of the Interior pursuant to the Federal Water Pollution Control Act,<sup>197</sup> there are indications that the improper application of these criteria to the formulation of water flow standards places the continued use of the standards in violation of the NEPA of 1969,<sup>198</sup> the Fish and Wildlife Coordination Act<sup>199</sup> and the Rivers and Harbors Act of 1899.<sup>200</sup>

The 1965 criteria have formed the basis for studies determining the delta fresh water outflow needed to insure adequate water quality in the bay-delta system. The Department of Water Resources has determined that the November 1965 criteria would be met with a minimum delta outflow of 1800 cubic feet per second.<sup>201</sup> A study by a group of Kaiser engineers concluded otherwise: that an average of about 4000 cubic feet per second would be needed to satisfy the same criteria for adequate water quality.<sup>202</sup> It is interesting to note, in addition to the discrepancy between the outflow requirements as determined by the Department of Water Resources and the Kaiser engineers, that the Department of Water Resources has several times revised its minimum outflow requirement. In 1928 the department had set a minimum outflow requirement of 4000 cubic feet per second as the amount

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196. See CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD, DEP'T OF WATER RESOURCES, WATER QUALITY CONTROL POLICY FOR THE SACRAMENTO-SAN JOAQUIN DELTA, at H-10 (April 1967).

197. Letter from Secretary of the Interior Stewart L. Udall to Governor Ronald Reagan, June 9, 1969, in VALLEY WATER STUDY, *supra* note 4, at 110.

198. 42 U.S.C. §§ 4321, 4331-35, 4341-47 (Supp. V, 1970). See text accompanying notes 43-81, 179-85, *supra*. A finding that the criteria violate the NEPA, of course, is contingent on a finding that the NEPA can be applied retroactively. See text accompanying notes 186-91 *supra*.

199. 16 U.S.C. §§ 661-66 (1964). See text accompanying notes 146-54 *supra*.

200. 22 U.S.C. § 403 (1964). See text accompanying notes 108-44 *supra*.

201. WATER RESOURCE ENGINEERS, INC., EVALUATION OF THE COST-OUTFLOW RELATIONSHIP FOR THE SACRAMENTO SAN JOAQUIN DELTA 9 (1969). See also Bay-Delta Report, *supra* note 9, at 3, 18. The Department of Water Resources has planned a reduction of the minimum delta outflow to 1500 cubic feet per second, and that new standard has been adopted in the tentative operation schedule for the peripheral canal.

202. KAISER ENGINEERS, FINAL REPORT TO THE STATE OF CALIFORNIA SAN FRANCISCO BAY-DELTA WATER QUALITY CONTROL PROGRAM, xviii-7 to 9 (June 1969).

necessary to prevent salinity incursion;<sup>203</sup> it has since revised the level downward to 3300 cubic feet per second,<sup>204</sup> and finally to the present standard of 1800 cubic feet per second.<sup>205</sup>

The Sierra Club, a conservation group concerned with the preservation of the San Francisco Bay environment, has proposed that if the Peripheral Canal is built, the minimum fresh water outflow requirement should be written into federal and state agreements or written into law. In addition, they recommend that the requirement be raised to a level of 5000 or 6000 cubic feet per second.<sup>206</sup> The California Department of Water Resources, however, having set the present standard, cannot be expected voluntarily to raise the standard to treble its present level. In addition, the California Legislature cannot set higher standards of outflow because of a provision of the Burns-Porter Act<sup>207</sup> which deals with the financing of the state water project:

The [Department of Water Resources] shall enter into contracts for the sale, delivery or use of water . . . . Such contracts shall not be impaired by subsequent acts of the Legislature during the time when any of the bonds authorized herein are outstanding. . . .<sup>208</sup>

The statute assures investors in water project bonds that the project's ability to meet contractual commitments shall not be impaired by future legislation. A legislative increase in the minimum fresh water outflow requirement to a level of 5000 cubic feet per second could impair the ability of the Department of Water Resources to meet its contract commitments by decreasing the amount of water available for export. The outflow minimum set by the 1965 agreement, however, was established without giving adequate consideration to the environmental impact on the San Francisco Bay, the Sacramento-San Joaquin delta or the Suisun Marsh.<sup>209</sup> The setting of that critical standard without due regard for the environmental impact on the bay-delta estuary places the Department of Water Resources and the Bureau of Reclamation in violation of the several aforementioned federal statutes<sup>210</sup> and should invalidate the standard.

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203. Bay-Delta Report, *supra* note 9, at 12.

204. *Id.*

205. *Id.*

206. *Hearings on the Nation's Estuaries: San Francisco Bay and Delta Before a Subcomm. of the House Comm. on Gov't Operations*, 91st Cong., 1st Sess. pt. 2, at 471 (1970).

207. CAL. WATER CODE §§ 12930-44.

208. *Id.* § 12937(b)(4).

209. Bay-Delta Report, *supra* note 9, at 3-5. *Contra*, CAL. DEP'T OF WATER RESOURCES BULL. NO. 160-66, at B-8 (1967), which states: "A minimum 1,800 cubic-feet-per-second outflow from the Sacramento-San Joaquin Delta was maintained for repulsion of ocean salinity and for maintenance of adequate water quality in Delta channels for agricultural and other purposes."

210. See text accompanying notes 108-95 *supra*.

#### IV. Conclusion

The devastating environmental effects which will result if state and federal governments continue to pursue the present course of massive interbasin water transfer is evident from an examination of the facts: "the California Water Plan is ecologically bankrupt."<sup>211</sup> Realizing that the California Water Plan provides for the development of one region of the state at the expense of the environmental amenities of another, the courts, given the opportunity, may show a willingness to assert their policy-making powers and may adopt a protective attitude toward the ecology in the bay-delta area.

The expansion of the water plan can be limited in several ways. The Rivers and Harbors Act,<sup>212</sup> if applied as in *Zabel v. Tabb*,<sup>213</sup> could be used to enjoin future diversions of the Sacramento River as "obstructions" to a navigable waterway which would have adverse ecological consequences. Water plan diversion projects operate in contravention of established congressional environmental conservation policies,<sup>214</sup> and therefore fail to conform to the standards of the National Environmental Policy Act.<sup>215</sup> If the NEPA is determined to be applicable to the operation of present projects and the construction of future projects, as some cases indicate it may be,<sup>216</sup> future diversion of central valley and north coast rivers could be terminated unless brought into compliance with the statute. Even if the NEPA cannot be applied retroactively, future development of the water plan and the construction of additional facilities should be subject to its provisions. Finally, because present operations of state and federal projects have already created serious environmental crises,<sup>217</sup> any limitation of future water project development must be supplemented with programs designed to mitigate present deleterious ecological effects.

The California Water Plan has not adequately considered the environmental impact of interbasin water transfer. While the plan purports to act in furtherance of public welfare, it is in fact contrary to sound environmental practices and its implementation by state and federal agencies constitutes an abrogation of their statutory responsibilities. Further development of the plan should therefore be postponed

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211. Stead, *A New Water Plan for California*, CRY CALIFORNIA 1 (1969). See also text accompanying notes 49-81 *supra*.

212. 33 U.S.C. § 403 (1964).

213. 430 F.2d 199 (5th Cir. 1970).

214. See text accompanying notes 146-77 *supra*.

215. 42 U.S.C. §§ 4321-47 (Supp. V, 1970).

216. Texas Comm. on Natural Resources v. United States, 1 BNA ENV. REP. 1303 (W.D. Tex. Feb. 5, 1970); Wilderness Society v. Hickel, 1 BNA ENV. REP. 1335 (1970) (D.D.C. Apr. 23, 1970).

217. See text accompanying notes 49-81 *supra*.

until its environmental consequences are fully evaluated and appropriate measures are taken to correct its deficiencies.

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